

I CLAIM

1. An aircraft servicing pit latch mechanism for holding and releasing a pit lid mounted in a frame atop a subsurface aircraft servicing pit, wherein said pit lid has an upper surface and an undersurface comprising: a latch operating lever storage recess defined in said upper surface of said pit lid, an actuator rod passageway formed in said pit lid and extending between said latch operating lever storage recess and said undersurface of said pit lid, a catch located in alignment with said actuator rod passageway at said undersurface of said pit lid and mounted for rotation about a horizontal axis of catch rotation, an actuator rod disposed for longitudinal, reciprocal movement in said actuator rod passageway, a latch operating lever having opposing latch handle and actuator rod operating ends mounted between said opposing ends to said pit lid for rotation at a fulcrum about a horizontal latch operating lever axis of rotation for movement between a stored position residing within the lateral confines of said latch operating lever storage recess and an actuator rod engaging position in which said latch handle end is raised out of said latch operating lever storage recess while said actuator rod operating end depresses said actuator rod to disengage said catch.

2. And aircraft servicing pit latch mechanism according to Claim 1 wherein said actuator rod has opposing upper and lower ends and further comprising a pair of rollers, one located at each of said upper and lower ends of said actuator rod, and said roller at said lower end of said actuator rod is mounted thereto on a lower roller axle oriented parallel to said axis of catch rotation and said roller at said upper end of said

actuator rod is mounted thereto on an upper roller axle oriented parallel to said latch operating lever axis of rotation.

3. An aircraft servicing pit latch mechanism according to Claim 2 wherein said rollers are comprised of roller bearings.

4. An aircraft servicing pit latch mechanism according to Claim 2 further comprising a longitudinal guideway in said actuator rod and a guide secured to said pit lid and projecting into said guideway to restrict said actuator rod in rotation within said actuator rod passageway.

5. An aircraft servicing pit latch mechanism according to Claim 2 wherein said upper and lower axes of roller rotation are angularly displaced from each other by ninety degrees considered in a horizontal plane.

6. An aircraft servicing pit latch mechanism according to Claim 2 wherein said latch operating lever is provided with a handgrip at its latch handle end oriented at right angles thereto, and said latch handgrip also resides within the lateral confines of said latch operating lever storage recess when said latch operating lever is in said stored position.

7. An aircraft servicing pit latch mechanism according to Claim 2 further comprising a spring biasing said catch toward an engaged position.

8. An aircraft servicing pit latch mechanism according to Claim 1 wherein said rod actuating end of said latch operating lever meets the structure of said pit lid when said latch operating lever is in said actuator rod engaging position to restrict

rotation of said latch operating lever to an angle of less than ninety degrees.

9. A latching mechanism for releaseably securing a pit lid having an upper surface and an undersurface and seated in a pit lid frame of a pit buried beneath a surface across which aircraft travel when not in flight comprising:

5 a catch depending from said undersurface of said pit lid and mounted for rotation about a horizontal catch axis of rotation relative to said pit lid between engaged and disengaged positions,

a latch operating lever storage recess formed in said upper surface of said pit lid vertically above said catch,

10 an actuator rod passageway defined through said pit lid and leading between said latch operating lever storage recess and said undersurface of said pit lid,

an actuator rod mounted for longitudinal, reciprocal movement within said actuator rod passageway, and said actuator rod is depressible to bear against said catch to disengage it from said pit, and

15 a latch operating lever having opposing handle and actuator rod engaging ends and said lever is hinged to said pit lid between its opposing ends and is rotatable about a horizontal fulcrum between a storage position residing within the lateral confines of said latch operating lever storage recess and a raised position in which said handle end is lifted out of said latch operating lever storage recess and said
20 actuator rod engaging end depresses said actuator rod into said actuator rod

passageway.

10. A latching mechanism according to Claim 9 wherein said actuator rod has opposing upper and lower ends and further comprising a pair of rollers, one located at each of said upper and lower ends of said actuator rod, and said roller at said lower end of said actuator rod is mounted thereto on a lower roller axle oriented parallel to said axis of catch rotation and said roller at said upper end of said actuator rod is mounted thereto on an upper roller axle oriented perpendicular to said latch operating lever.

11. A latching mechanism according to Claim 9 further comprising a longitudinal guideway in said actuator rod and a guide secured to said pit lid and projecting into said guideway to restrict said actuator rod in rotation within said actuator rod passageway.

12. A latching mechanism according to Claim 9 wherein said catch and said latch operating lever are rotatable about axes of rotation that lie in parallel planes and which are angularly displaced at right angles from each other.

13. A latch operating mechanism according to Claim 9 wherein said latch operating lever is provided with a handgrip at its latch handle end oriented at right angles thereto, and said handgrip also resides within the lateral confines of said latch operating lever storage recess when said latch operating lever is in said storage position.

14. A latch operating mechanism according to Claim 9 further comprising a spring mounted in said pit lid biasing said catch toward an engaged position.

15. In a subsurface pit for use below a surface across which aircraft travel on the ground having a pit lid frame and a pit lid with an upper surface and an undersurface wherein said pit lid is set in said frame and which can be lifted relative to said frame, and a pivoted catch located beneath said pit lid at said undersurface thereof and engageable with said pit to hold said pit lid seated in said frame, the improvement comprising:

a latch operating lever storage recess defined in said upper surface of said pit lid above said pivoted catch,

an actuator rod passageway defined through said pit lid and terminating in an upper opening in said latch operating lever storage recess and a lower opening at said undersurface of said pit lid in registration with said pivoted catch,

an actuator rod disposed in said actuator rod passageway for longitudinal, reciprocal movement therewithin, wherein said actuator rod is depressible downwardly to bear against said pivoted catch so as to disengage said pivoted catch relative to said pit, and

a latch operating lever having opposing latch handle and actuator rod engaging ends, and pivotally mounted between said ends to said pit lid proximate said upper surface thereof and rotatable between a catch engaging position lying completely within the lateral confines of said latch operating lever storage recess and a raised position in which said latch operating lever depresses said actuator rod downwardly to disengage said catch.

16. A subsurface pit according to Claim 15 wherein said actuator rod has opposing upper and lower ends and further comprising a pair of rollers, one located at each of said upper and lower ends of said actuator rod, and said roller at said upper end of said actuator rod is mounted thereto on an upper roller axle oriented perpendicular to said latch operating lever, and said roller at said lower end of said actuator rod is mounted thereto on a lower roller axle oriented perpendicular to said upper roller axle.

17. A subsurface pit according to Claim 15 further comprising a longitudinal guideway in said actuator rod and a guide secured to said pit lid and projecting into said guideway to limit said actuator rod in rotational movement within said actuator rod passageway.

18. A subsurface pit according to Claim 15 further comprising a catch axle mounted to said pit lid and upon which said catch is mounted for rotational movement, and a pair of rollers, one located at each of said upper and lower ends of said actuator rod, and said roller at said lower end of said actuator rod is mounted thereto on a lower roller axle oriented parallel to said catch axle and said roller at said upper end of said actuator rod is mounted thereto on an upper roller axle oriented parallel to said latch operating lever and said upper and lower roller axles are angularly displaced from each other by ninety degrees considered in a horizontal plane.

19. A subsurface pit according to Claim 15 further comprising a spring interposed between said catch and said pit lid and biasing said catch toward a position engaged with said pit.

20. A subsurface pit according to Claim 15 wherein said actuator rod engaging end of said latch operating lever meets the structure of said pit lid in abutment thereagainst to restrict rotation of said latch operating lever to an acute angle relative to the orientation of said pit lid.